

# HEART OF TEXAS COOPERATIVE OBSERVER



**THIS WEATHER STATION FEATURES 3 RAINGAGES AND A MAX/MIN TEMPERATURE SYSTEM.**

**THE STANDARD 8" RAIN GAGE AND MAX/MIN TEMPERATURE SYSTEM IS THE PRIMARY EQUIPMENT USED AT ALL CLIMATOLOGICAL NETWORK COOP STATIONS.**

**THE FISHER/PORTER RECORDING GAGE IS THE PRIMARY EQUIPMENT USED AT ALL HYDROLOGIC NETWORK COOP STATIONS.**

**THE 4" RAIN GAGE IS THE PRIMARY EQUIPMENT USED AT ALL RAINFALL NETWORK STATIONS.**



# LENGTH OF SERVICE AWARDS



**Jajeon Johnston of Water Valley receives her 15 year Length of Service Award. The award was presented by Eva Mullen, CPM at WFO San Angelo, TX**

**L. Mac Reid of Hamlin receives his 20 year Length of Service Award. The award was presented by Eva Mullen, CPM at WFO San Angelo, TX**



# COOP AND RAINFALL NETWORK EXPANSION

The National Weather Service has used volunteer weather observers for as long as the agency has been in existence. Some of these volunteers are part of a national climate network known as the Cooperative Observation Program. A large number of these observers record daily high and low temperatures as well as 24 hour rainfall and snow data. Some have recording rain gages that they monitor and service once a month. The nation is divided into 25 X 25 mile grid boxes, generally with one cooperative observer in each grid box.

While the 25 mile grid is fine for national climatology, it falls way short of the needs of local weather offices, as well as other state and federal agencies and a large number of private enterprises. In today's complicated, computer driven world, much more data is needed in smaller areas to meet the growing needs of the nation.

We have for many years used volunteer weather observers in what we call the Rainfall Network. Over the years the problem with the Rainfall Network has been keeping good observers and recruiting observers in remote areas. Recently a local private company, (I can't mention the name for obvious reasons) presented us with the opportunity to get a large number of rain gages into remote areas, vastly increasing the amount of data received and used by the National Weather Service in San Angelo and by the West Gulf River Forecast Center in Fort Worth. The increased amount of rainfall data will be returned in the form of more comprehensive national products used by private industry in their everyday business.

In the last six months, thanks to private help, the NWS has added 72 new rainfall reporting stations across the Concho Valley, the northern Edwards Plateau, the southern Heartland and the northwest Hill Country. This gives us a total of 125 rainfall reporting stations in the 24 county West Central Texas area.

Thank you to all of the volunteers that assist us in data collection everyday and welcome to the 72 new Rainfall Network Observers. We look forward to working with you for many years. If you have any questions or need anything to assist you in your data collection, please don't hesitate to call.

Les Hiesler  
Data Acquisition Program Manager  
National Weather Service San Angelo, TX

## A REMINDER TO ALL OBSERVERS

We need your severe weather reports. If and when severe weather occurs at your location please give us a call as soon as it is safe and report your severe weather. Severe weather includes winds 50 mph or higher causing damage to property, hail stones the size of a penny (3/4 inch) or larger and tornadoes. To report severe weather, call the 800 number and give the meteorologist on duty the type of weather that occurred, the time of occurrence and brief description of any damage that occurred as a result of the weather. Remember, we are here 24 hours a day.

## SUMMER WEATHER OUTLOOK FOR WEST CENTRAL TEXAS

By Mathew Groh, Meteorologist

Figures 1 and 2 show the 90-day (July through September 2008) outlook for temperatures and precipitation. This outlook is issued by the Climate Prediction Center. For West Central Texas, this outlook calls for an equal chance for temperatures and precipitation to be in the above, near, or below normal category. In our region, normal high temperatures climb from the low 90s in early July to the mid 90s from mid July to mid August, then drop back slightly into the lower 90s in late August. Temperatures fall into the low and mid 80s by the end of September. Normal low temperatures are in the low 70s through July and the first half of August, then drop back into the upper 60s in late August and into the low 60s by the end of September. Normal rainfall for June through August is 7.39 inches for Abilene, and 5.67 inches for San Angelo.

Although strong to severe thunderstorms and locally heavy rain typically affect West Central Texas during the first half of June, conditions have been different this year. A hot and dry mid-summer like pattern, more typical of late June and July into August, had already developed by the beginning of June. This was brought about by a high pressure system aloft. The high pressure system has been a fairly persistent feature over West Texas and New Mexico. This system has suppressed thunderstorm development, especially across the region south of a Sterling City to Brownwood line. A few dissipating thunderstorm complexes have dropped south into the Big Country during the nighttime hours. Although there may be temporary breaks in the pattern as we progress into mid-summer, we are moving into the time of year when it is more normal to experience the hot and dry conditions. The high pressure system aloft could become a persistent feature as we progress through the summer. From a climatological standpoint, occasionally in August, an east or southeast flow develops aloft and allows disturbances to move into Texas from the Gulf of Mexico. This can bring more humid conditions to west-central Texas, along with scattered showers and thunderstorms, and slightly cooler temperatures. On a few occasions, the remnants of a tropical storm or hurricane have tracked into the region and brought very heavy rainfall with localized flash flooding.

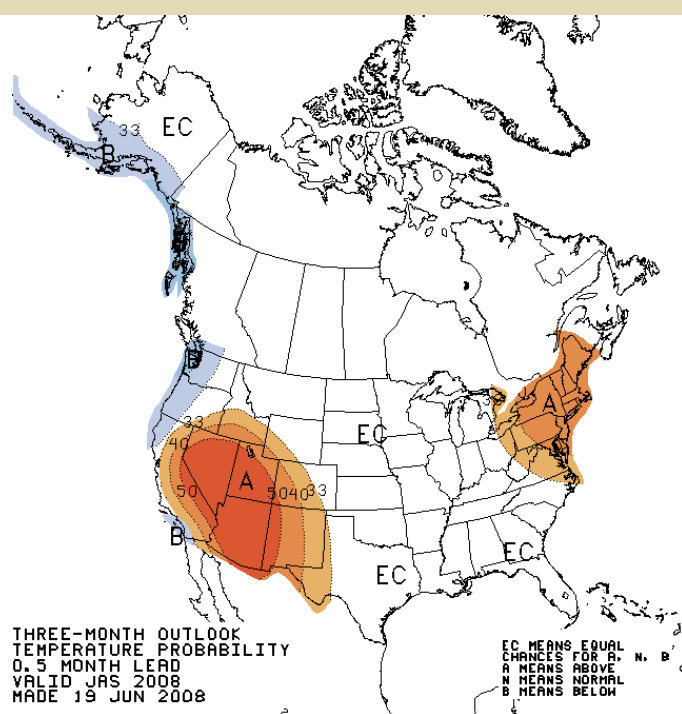


Figure 1 90 Day Temperature Outlook July-September. Equal chances for temperatures above, near and below normal.

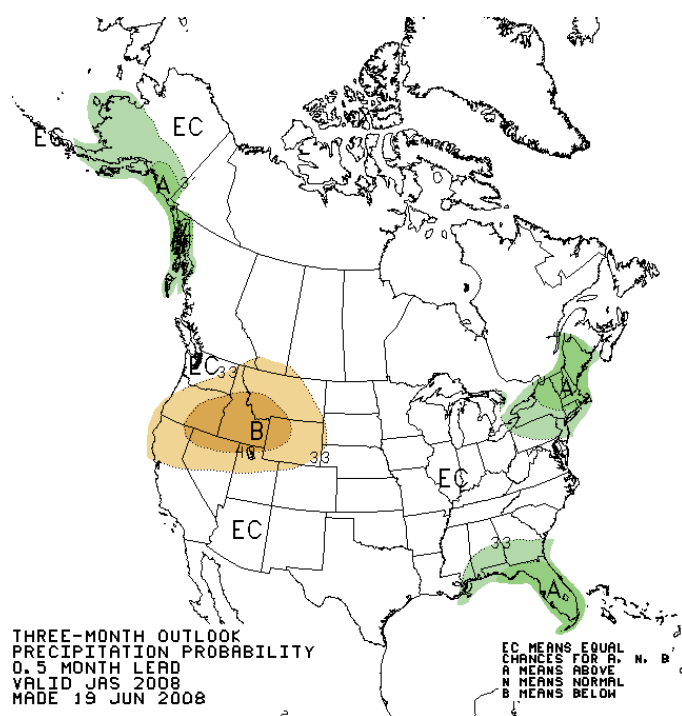


Figure 2 90 day Precipitation Outlook July-September. Equal chances for rainfall above, near and below normal.



# Drought Impacts on Fire Weather

By Seth Nagle, Senior Meteorologist

The spring and summer of 2007 were abnormally wet and cool seasons with San Angelo and Abilene experiencing well above normal precipitation and below normal temperatures. This led to tremendous growth of fine fuels (grasses and shrubs) in wildland areas over much of West Central Texas. As a result, wildfires broke out during the winter of 2007-2008. The most devastating fires to affect West Central Texas took place on February 25, 2008. The largest, “Glass Fire,” covered more than 200,000 acres and affected the three West Central Texas counties of Sterling, Tom Green, and Irion. The other fire was the “Silver Fire,” and this fire affected much of northern and central Coke County, and resulted in evacuations of residences. Images of the burn scars from these fires are shown below in Figure 1.



Figure 1—Glass and Silver Fires burn scars.

Fire weather will continue to be a concern through the rest of the summer due to ongoing drought and good fuel loading of fine fuels. On the next page are images of the current Drought Monitor (Figure 2) and an image of the same from one month ago (Figure 3). Conditions have generally deteriorated across West Central Texas and drought conditions have expanded northward to cover most of the state. In fact, 92% of the state is at least considered to be “Abnormally Dry” at this time, as opposed to 53% just one month ago. In addition, 51% of the state is considered to be in a Moderate Drought, as opposed to 36% one month ago. These are both significant increases.

# U.S. Drought Monitor

## Texas

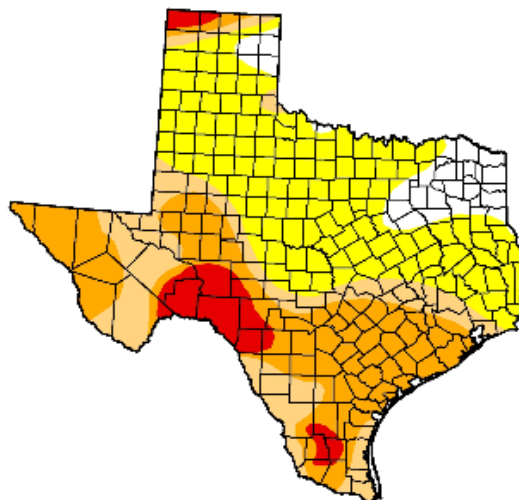
June 10, 2008

Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7.8	92.2	51.4	33.7	6.5	0.0
Last Week (06/03/2008 map)	37.9	62.1	44.9	28.6	1.5	0.0
3 Months Ago (03/18/2008 map)	30.6	69.4	56.9	15.8	3.9	0.0
Start of Calendar Year (01/01/2008 map)	52.0	48.0	11.6	0.0	0.0	0.0
Start of Water Year (10/02/2007 map)	97.9	2.1	0.0	0.0	0.0	0.0
One Year Ago (06/12/2007 map)	96.8	3.2	0.0	0.0	0.0	0.0

### Intensity:

D0 Abnormally Dry	D3 Drought - Extreme
D1 Drought - Moderate	D4 Drought - Exceptional
D2 Drought - Severe	



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, June 12, 2008

Author: Mark Svoboda, National Drought Mitigation Center

Figure 2 – U.S. Drought Monitor valid June 10<sup>th</sup>, from the University of Nebraska – Lincoln.

# U.S. Drought Monitor

## Texas

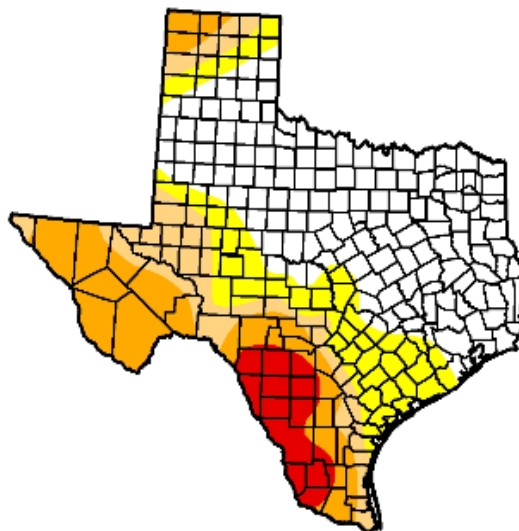
May 13, 2008

Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	46.7	53.3	36.6	24.3	6.9	0.0
Last Week (05/06/2008 map)	41.4	58.6	38.7	24.3	6.9	0.0
3 Months Ago (02/19/2008 map)	28.3	71.7	41.0	14.8	1.5	0.0
Start of Calendar Year (01/01/2008 map)	52.0	48.0	11.6	0.0	0.0	0.0
Start of Water Year (10/02/2007 map)	97.9	2.1	0.0	0.0	0.0	0.0
One Year Ago (05/15/2007 map)	96.0	4.0	0.0	0.0	0.0	0.0

### Intensity:

D0 Abnormally Dry	D3 Drought - Extreme
D1 Drought - Moderate	D4 Drought - Exceptional
D2 Drought - Severe	



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, May 15, 2008

Author: Michael James, JAWF/CPC/NOAA

Figure 3 – U.S. Drought Monitor valid May 13<sup>th</sup>, from the University of Nebraska – Lincoln.

The forecast from the Climate Prediction Center (see Figure 4 below) indicates the state is expected to see some improvement for most of these areas between June and August. Indeed, showers and thunderstorms have affected north central Texas during the middle of the month of June, and it appears that trend may continue through the week of Monday, June 23<sup>rd</sup>. However, west central Texas is in an area where little change is expected, and we may see conditions continue to worsen if temperatures remain this hot without any significant rainfall.

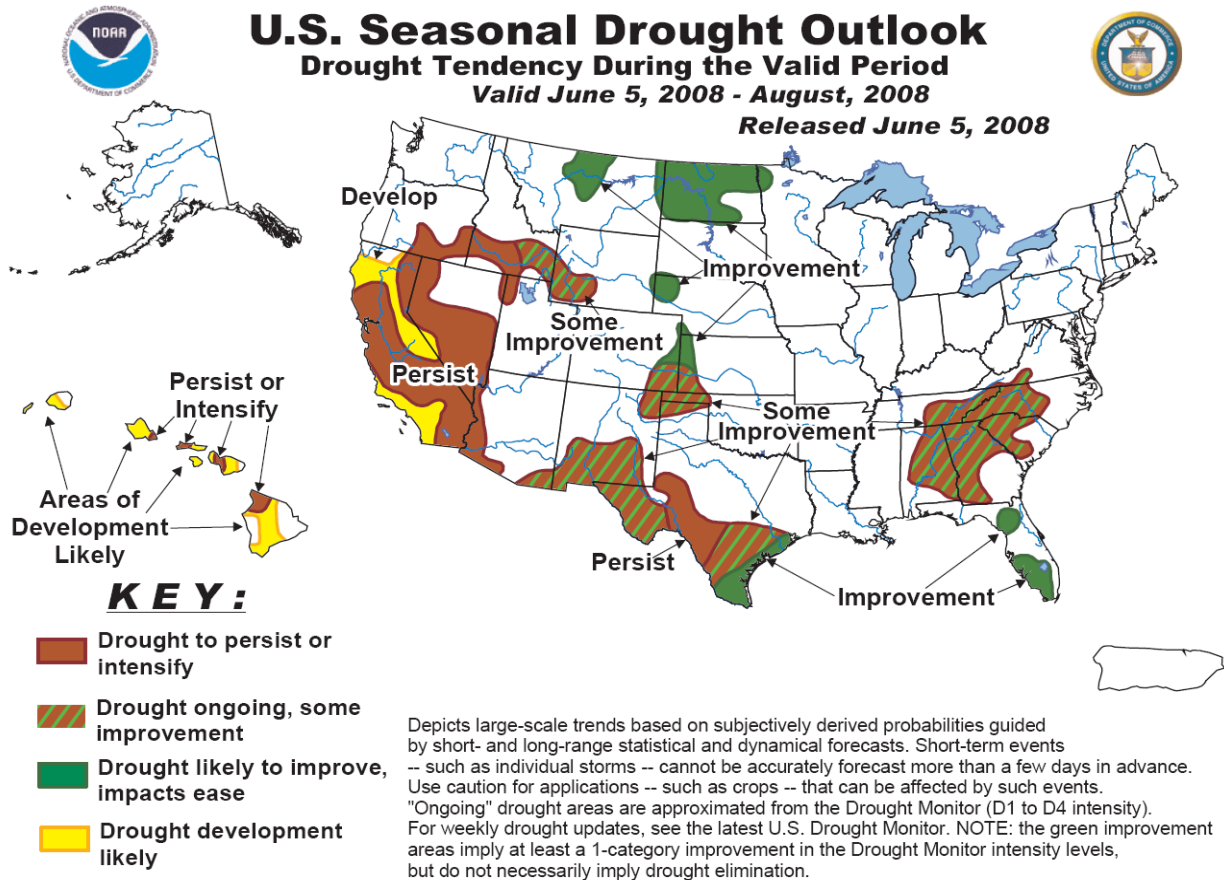


Figure 4 – U.S. Seasonal Drought Outlook valid June 5<sup>th</sup>, 2008 through August, 2008 from NOAA's Climate Prediction Center.

## Gains and Losses in the Coop Program

During the past 6 months we lost 3 coop stations. The station at Oak Creek Lake closed and we are looking for a new observer in the Oak Creek Lake area. Also, the station at O.C. Fisher Dam closed. This equipment moved back to the Weather Forecast Office in San Angelo. Finally, the coop station at San Angelo 15WNW closed.

Additions during the last 6 months include Carl Schlinke at Mertzon 12NNW, Cole Crenwelge at Ozona and Rick and Lori Griffin at Blackwell 6NE.

We want to welcome these new observers to the volunteer network family. We appreciate what you are doing and look forward to working with you in the future.



# West Central Texas Rainfall Totals

By Jason Johnson, Hydrologist

The first half of 2008 has been nothing like what we experienced last year in terms of rainfall and temperatures. By this time last year, most of west central Texas was enjoying above normal rainfall and temperatures had not come close to the 100 degree mark. So far, 2008 has brought mostly hot, windy and dry conditions. While a few areas have received some good rains this year, many areas across west central Texas have accumulated below normal precipitation year to date. Along with the dryness, the temperatures have been brutally hot with numerous days in May and June reaching or exceeding the 100 degree mark.

The U.S. Drought Monitor currently depicts extreme agricultural drought conditions across the Northern Edwards Plateau. The western Concho Valley and portions of the Northwest Hill Country are experiencing severe agricultural drought conditions.

The collection of cooperative observer rainfall reports for the period January through May are summarized below.

January was a dry month and the average precipitation reported from coop observers was only 0.22 of an inch. The highest monthly precipitation total of 0.59 of an inch was reported in Brown County. Coop observers in Brown and Coleman Counties received just over half of an inch of precipitation in January.

The average precipitation reported from coop observers in February was 0.40 of an inch. The highest monthly precipitation total of 1.03 of an inch was reported in Shackelford County. Coop observers in Shackelford and Throckmorton Counties received over 0.75 an inch of precipitation in February.

The month of March broke the long dry winter period. Generous amounts of rain fell across the region to help replenish soil moisture and surface water. The average precipitation reported from coop observers in March was 3.69 inches. The highest monthly precipitation total of 6.55 inches was reported in Callahan County. Coop observers in Callahan, Coleman, Concho, Menard, Schleicher, Shackelford and Taylor Counties received over 5.00 inches of precipitation in March.

The average precipitation reported from coop observers in April was 1.94 inches. The highest monthly precipitation total of 6.25 inches was reported in San Saba County. Coop observers in Callahan, Fisher, Jones, Mason, San Saba and Shackelford Counties received over 3.00 inches of precipitation in April.

The average precipitation reported from coop observers in May was 2.21 inches. The highest monthly precipitation total of 6.58 inches was reported in Jones County. Coop observers in Concho, Jones, McCulloch, San Saba, Shackelford, Taylor and Throckmorton Counties received over 3.00 inches of precipitation in May.

The figure above shows the total rainfall amounts reported for the period January through May of 2008.

